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AN 1982-09516J [51] WPIDS

TI Porous film or sheet prodn. by melt extrusion and stretching - using compsn. contg. polyolefin, filler and liq. or waxy hydrocarbon polymer.

DC A18 A32

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PA (MITU) MITSUBISHI CHEM IND LTD

CYC 6

PI EP 66672 A 19821215 (198251)\* EN 54p

R: DE FR GB IT

JP 57203520 A 19821213 (198304)

JP 58015538 A 19830128 (198310) <--

US 4472328 A 19840918 (198440)

JP 62015090 B 19870406 (198717)

EP 66672 B 19870902 (198735) EN

R: DE FR GB IT

DE 3277120 G 19871008 (198741)

JP 03002893 B 19910117 (199107)

ADT EP 66672 A EP 1982-101589 19820302; JP 57203520 A JP 1981-114865 19810722;

US 4472328 A US 1982-353990 19820302; JP 03002893 B JP 1981-88734 19810609

PRAI JP 1981-88734 19810609; JP 1981-114865 19810722

AN 1982-09516J [51] WPIDS

AB EP 66672 A UPAB: 19930915

Prodn. of a porous film or sheet comprises melt moulding the compsn. specified below and then stretching the resulting film or sheet. The compsn. is one prepd. by compounding (A) 100 pts.wt. of a polyolefin resin with (B) 25-400 pts.wt. of a filler and (C) 1-100 pts.wt. of a liq. or waxy hydrocarbon polymer. (A) is HDPE, LLDPE or polypropylene. (C) contains 1.5-5 OH gps. over mol. and is a liq. opt. hydrogenated polybutadiene or liq. polybutene.

Compounding is by first dispersing and spreading (C) in (A) powder, followed by mixing the mixt. with (B); this improves the dispersability of (C) into (A) during kneading.

Monoaxially stretched prods. have well balanced physical properties with high surface strength and high pliability. Biaxially stretched prods.

have high surface strength and excellent stretchability and pliability. The films or sheets are easily incinerated without generation of toxic gases. They can be heat sealed and can be used in shrink wrapping. Other uses are in garments (e.g. rain wear), cell separators, filtering materials, medical materials, etc.

ABEQ US 4472328 A UPAB: 19930915

Porous films and sheets are produced by A) melt moulding into a film or sheet a compsn. consisting of a) 100 pts. wt. of a linear low density polyethylene of density 0.91 or above, a high density polyethylene and/or a polypropylene, b) 25-400 pts. wt. of a filler of particle size below 30 microns and selected from inorganic fillers or cellulose type organic fillers, and c) 1-10 pts. wt. of at least 1 liquid hydrocarbon polymer such as polybutene, polybutadiene and hydrogenated polybutadiene having a (mostly) satd. main chain, and B) stretching the film or sheet.

The liquid (hydrogenated) polybutadiene pref. contains 1.5-5.0 OH per molecule. The compsns. are obtd. by dispersing and spreading the hydrocarbon polymer in the polyolefin powder and mixing the product with the filler. The stretching may be mono- or biaxial.

USE/ADVANTAGE - for clothes (water proof), cell separators, filtering material, medical materials and the like; the uniaxially stretched films have a good balance of physical properties, strong surface strength and high pliability; biaxially stretched films have excellent surface strength and pliability and excellent stretchability. The films can be burnt without producing toxic vapours.

ABEQ EP 66672 B UPAB: 19930915

A process for producing a porous film or sheet comprising melt-moulding a composition prepared by compounding 100 parts by weight of at least one polyolefin resin selected from the group consisting of a linear low density polyethylene having a density of 0.91 or more, a high density polyethylene and a polypropylene with 25 to 400 parts by weight of at least one filler having a mean particle size of not more than 30 microns selected from the group consisting of inorganic fillers and cellulose type organic filler and 1 to 100 parts by weight of a plasticiser into a film or sheet and stretching the resulting film or sheet, characterised in that as a plasticiser there is used a hydrogenated polybutadiene.